MONITORING MAKEOVER: REJUVENATING A LONG-TERM INTERAGENCY MONITORING PROGRAM IN CALIFORNIA

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Biographical Sketch of Authors

Anke Mueller-Solger and Zachary Hymanson are Staff Environmental Scientists with the CA Department of Water Resources (DWR). After heading the long-term Environmental Monitoring Program (EMP) for several years, Zachary Hymanson has recently joined the CALFED Bay-Delta program staff, but remains actively involved with the EMP. Upon joining DWR in September 2000, Dr. Anke Mueller-Solger was tasked with coordinating and conducting a comprehensive review of the EMP. Anke Mueller-Solger is also a staff researcher at UC Davis where she works on lower trophic level interactions in lakes and estuaries. Her dual employment is fueled by her interest in better connecting academic and agency science.

Abstract

In 2001-2, the California Interagency Ecological Program's (IEP) long-term Environmental Monitoring Program (EMP, s. http://iep.water.ca.gov/emp/) for the upper San Francisco Estuary underwent a major programmatic review. The upper San Francisco Estuary consists of a large and complex network of river channels, shallow lakes, tidal wetlands, and flood plains. It is central to water resource management in California and home to several threatened and endangered species. The ecological complexity of this tidal freshwater system, the long-term nature of the EMP, and institutional and legal requirements made the 2001-2 EMP review a challenging task. A core group of five EMP researchers devised an innovative, multi-tiered review process to assure scientific excellence as well as broad-based support for the resulting recommendations. Realizing the importance of uninterrupted monitoring time series, reviewers carefully adjusted the 30-year old program to meet the needs of the 21st century without altering the fundamental program design. The largest proposed change is to greatly expand the existing continuous monitoring station network using cutting-edge monitoring technologies to overcome tidal aliasing and other temporal biases. According to the proposed plan, discrete sampling will complement the continuous monitoring network. The monitoring network will consist of intensely monitored core stations representing distinct regions or habitat types and less intensely monitored secondary stations. Another important recommendation is greater emphasis on analysis and reporting of data and information as well as collaboration and coordination with other programs, agencies, and universities. A prioritized implementation plan includes monitoring activities as well as specific special studies designed to address unresolved questions related to program design, procedures, and data analysis.